CLAIMS

1. A method of stopping an unmanned mine vehicle in a predetermined position, the mine vehicle (1, 1a, 1b) being controlled by means of a control system comprising at least a first control unit (3) in the mine vehicle, a second control unit (4) outside the mine vehicle and a data transmission connection (5) between said control units (3, 4), and

the method comprising:

driving the mine vehicle (1, 1a, 1b), controlled by its control system, towards a predetermined position; and

monitoring at least the speed of the mine vehicle and the speed of the driving power transmission (20) of the mine vehicle, **characterized** by

driving the mine vehicle (1, 1a, 1b) at a speed significantly lower than the normal driving speed against at least one physical obstacle (7, 7a, 7b) that is arranged in a predetermined position; and

stopping the mine vehicle (1, 1a, 1b) when the ratio of the speed of the driving power transmission (20) to the speed of the mine vehicle exceeds a predetermined limit value.

2. A method according to claim 1, **characterized** by

monitoring the speed of the traction wheels (10); and

stopping the mine vehicle (1, 1a, 1b) when the ratio of the speed of at least one traction wheel (10) to the speed of the mine vehicle (1, 1a, 1b) exceeds a predetermined limit value.

3. A method according to claim 1, **characterized** by

monitoring the rotation speed of the motor (30) of the mine vehicle (1, 1a, 1b) when the vehicle is driven at a given gear of the driving power transmission (20) against the obstacle (7); and

stopping the mine vehicle (1, 1a, 1b) when the ratio of the rotation speed of the motor (30) to the speed of the mine vehicle exceeds a limit value defined according to the gear used.

4. A method according to any one of the preceding claims, **characterized** by driving the mine vehicle (1, 1a, 1b) at a decelerating speed against the obstacle (7, 7a, 7b).

5. A method according to any one of the preceding claims, **characterized** by driving at least one wheel (10) of the mine vehicle (1, 1a, 1b) against the obstacle (7, 7a, 7b).

6. A method according to any one of claims 1 to 4, **characterized** by driving the frame (12) of the mine vehicle (1, 1a, 1b) against the obstacle (7, 7a, 7b).

7. A system for stopping an unmanned mine vehicle in a predetermined position, the system comprising at least:

a control unit including at least a first control unit (3) in the mine vehicle; a second control unit (4) outside the mine vehicle and a data transmission connection (5) between said control units (3, 4); and

means for monitoring the speed of the mine vehicle (1, 1a, 1b) and the speed of the driving power transmission (20) of the mine vehicle,

characterized in that the system further comprises

at least one physical obstacle (7, 7a, 7b) arranged in a predetermined position, against which the mine vehicle (1, 1a, 1b) is arranged to be driven; and

means for stopping the mine vehicle (1, 1a, 1b) when the ratio of the speed of the driving power transmission (20) of the mine vehicle to the speed of the vehicle exceeds a predetermined limit value.

8. A system according to claim 7, **characterized** in that the system comprises members (16) for monitoring the speed of the traction wheels (10) of the vehicle and for determining the speed of the driving power transmission (20).

9. A system according to claim 7, **characterized** in

that the system comprises means for monitoring the rotation speed of the motor of the mine vehicle (1, 1a, 1b); and

that the system is arranged to stop the mine vehicle (1, 1a, 1b) when the ratio of the rotation speed of the motor (30) to the speed of the mine vehicle exceeds a limit value defined according to the gear used.

10. A system for stopping an unmanned mine vehicle in a predetermined position, the system comprising a control system including at least a control unit (3) in the mine vehicle (1, 1a, 1b),

characterized in that the system further comprises:

at least one physical obstacle (7, 7a, 7b) arranged in a predetermined position, against which the mine vehicle (1, 1a, 1b) is arranged to be driven;

means for determining the tractive resistance of the mine vehicle (1, 1a, 1b) when said obstacle (7, 7a, 7b) is approached; and further,

means for stopping the mine vehicle (1, 1a, 1b) when the tractive resistance exceeds a predetermined limit value.

11. A system according to claim 10, **characterized** in that the system comprises means for determining the speed of the mine vehicle (1, 1a, 1b);

that the system comprises means for monitoring the rotation speed of the motor of the mine vehicle (1, 1a, 1b); and

that the system is arranged to stop the mine vehicle (1, 1a, 1b) when the ratio of the rotation speed of the motor (30) to the speed of the mine vehicle exceeds a limit value defined according to the gear used.

12. A system according to claim 10, **characterized** in that the system comprises members (16) for monitoring the speed of the traction wheels (10) of the vehicle and for determining the speed of the driving power transmission (20).